



Ten Megatrends in Medical Education

BY CATHY J. LAZARUS, MD

In 1982, John Naisbitt, a self-described “social forecaster” and business consultant, published his best selling book, *Megatrends*. The book forecasted the end of the industrial economy and the beginning of the global information and service age.¹

Recently, the Steering Committee for the Generalists in Medical Education developed a similar list of 10 megatrends in medical education as the theme for the 2008 Generalists in Medical Education conference in San Antonio.² These are described below.

Globalization

The increasing interconnectedness among the world's population has implications for global health. For example, shortages of physicians in one part of the world may affect other areas. Alternatively, increased collaboration between international medical education institutions can help address workforce shortages around the world. This trend includes exporting of medical education and educational participation from the United States and Canada to other countries around the world in the form of educational programs and curricula, technology, teaching methods, faculty, learners, and increased use of distance learning and e-learning technology to bridge the physical distance between teachers and learners.

Simulation

Models of body parts, advanced inanimate patient simulators that can simulate a patient with symptoms of illness, and the use of live simulated patients who are trained to behave and act like real patients are developing at a rapid pace for training and assessing medical students and physicians on technical procedures and patient-physician interaction skills. This has led to improved formative and summative performance assessments and accountability measures (standardization for validity and reliability) for teaching and testing technical procedures, for teaching and testing interpersonal communication and physical exam skills, and for using

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models and simulations to avoid problems inherent to novices learning on live patients.

Rising Cost of Medical Care and Medical Education

The continued unchecked rise in the cost of health care has implications for medical education. Physicians need to learn how to deliver care in the most cost-effective way without jeopardizing patient safety, the effectiveness of the care, or the efficiency of the delivery. The rising cost of medical education and the impact of student debt on specialty choice and practice location are serious concerns.

Redefinition of Desired Physician Traits

There is continuing recognition that a major influence on a physician's effectiveness rests on his or her ability to interact with a patient on a personal level. Redefining the physician from an authoritarian model to one of collaboration is seen as a major step in improving effectiveness. This requires selecting or developing physicians who have strong interpersonal communication skills. This shift from physician-centered to patient-centered practice means viewing the patient not as a problem to be solved, but as an individual in need. Additionally, there is increasing emphasis on teaching new ways for physicians to practice in order to improve patient safety, timeliness of health care delivery, efficiency, and effectiveness.

Need for Continuity across the Education Timeline

The introduction of a competency-based framework has facilitated thinking about the need to connect the pockets of formal medical education along the timeline of physician

development. Educators at all levels are being challenged to introduce new methods of evaluation for measuring the core competencies throughout the medical education curriculum.

The change in the composition of the gender and career expectations for current students means creating alternatives for physician licensure so that they can re-enter, retrain, or modify their practice throughout their careers. This requires increasing interconnectivity and coordination among accreditation, licensing bodies, and educational institutions.

Interdisciplinary and Interprofessional Education

To promote the ability of physicians to work as part of a health care team, medical educators must promote cooperation and collaboration in education and training of all providers across the health care spectrum. This involves multidisciplinary cooperation and collaboration in education and training at all levels and the use of teaching methods and curricula that are presented in a format that more closely resembles the practice of medical care in teams simulations requiring the collaboration of personnel across the spectrum of health care providers.

Recognition of Medical Education as Part of the Health Care Enterprise

Medical education is a fundamental part of the health care enterprise with its own need for specialists with an important skill set.

As class size expands, and the number of medical schools increases, there is a need to develop specialists among medical school teaching faculty and to provide tangible rewards equivalent to rewards for research and patient care roles. There will be an increased emphasis on educational research and scholarship, including support for enhanced funding.

Need for Life-Long Learning and Medical Professional Support

Learners will need strategies for knowledge maintenance rather than retention of fixed

facts that become outdated. There is decreased emphasis on memory-based learning because of the rapid expansion of knowledge and availability of memory support tools and resources used at the point of care. It will be necessary to address the divide created by four generations of practicing physicians. This will require physician- and student-centered supports for learner development that include fostering positive learning environments and systems that promote individual physician well-being.

Changes in the Medical Education Setting

There is a continuing shift from education in the hospital environment to more education delivery in the ambulatory setting. This means increased involvement of community-based medical institutions and private physician offices and increased teacher training and rewards for community-based preceptors.

Technology

The rapid improvements in medical, informational, and educational technology over the past decade have vast implications for medical education. Technology in the delivery of health care and advances in biomedical informatics and communication technology have implications for the way physicians are taught to manage their patients and their practices. These include electronic health records, access to information at point of care, and memory and decision support tools. Advances in genetics, immunology, imaging, and molecular, cellular, and nanotechnology have implications for the medical education curriculum and the need for life-long learning skills. ❖

References

1. Naisbitt J. *Megatrends*. New York: Warner Books, 1984 (first published 1982).
2. www.thegeneralists.org.

This column was submitted on behalf of the Generalists in Medical Education Steering Committee. More information about the conference and the Generalists in Medical Education can be found at www.thegeneralists.org.

For an expanded version of this column, visit the APS Web site at www.acphysci.com.